

ALLISON (TERRELL) SAUPPÉ

University of Wisconsin–La Crosse
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EMPLOYMENT

Assistant Professor, Computer Science 2015–present
University of Wisconsin–La Crosse

EDUCATION

Ph.D. in Computer Sciences 2011–2015
University of Wisconsin–Madison

Dissertation: Designing Communication Strategies for Human-Robot Collaboration
Advisor: Prof. Bilge Mutlu

M.S. in Computer Sciences 2009–2011
University of Wisconsin–Madison

B.S. in Computer Science and Software Engineering 2005–2009
Rose-Hulman Institute of Technology

Minor: Japanese Language

TEACHING EXPERIENCE

Introduction to Software Design I (CS 120), Instructor 2015–2017
La Crosse, Wisconsin

I taught multiple sections (1 x fall 2015, 1 x spring 2016, 2 x fall 2016, 1 x fall 2017) of *Introduction to Software Design I*, a general education course intended to introduce both majors and non-majors to Java programming.

Introduction to Software Design II (CS 220), Instructor 2018–2020
La Crosse, Wisconsin

I taught multiple sections (1 x spring 2018, 2 x fall 2018, 2 x spring 2019, 1 x spring 2020, 2 x fall 2020) of *Introduction to Software Design II*, a course intended to further the knowledge of both majors and non-majors to Java programming, particularly file I/O, data structures, and algorithm analysis.

Introduction to Database Management Systems (CS 364), Instructor 2016-2020
La Crosse, Wisconsin

I taught multiple sections (1 each semester since fall 2016, and once online in summer 2020) of *Introduction to Database Management Systems*, a course intended to introduce student's to designing relational database, using SQL, and the theoretical underpinnings of a relational database.

Introduction to Computational Thinking (CT 100), Instructor 2015-2016
La Crosse, Wisconsin

I taught multiple sections (1 x fall 2015, 1 x spring 2016, 1 x fall 2017) of *Introduction to Computational Thinking*, a general education course intended to introduce non-majors to common topics in computer science and technology.

Object Oriented Software Development (CS 446/546), Instructor 2016-2018
La Crosse, Wisconsin

I taught multiple sections (1 x spring 2016, 1 x spring 2018) of *Object Oriented Software Development*, a course intended to deepen student's knowledge of fundamental design techniques for object oriented programming, including UML, software design patterns, and aspected oriented programming. This course included both undergraduate and graduate students.

Homeschool Introduction to Data Structures, Instructor 2013-2014
Madison, Wisconsin

I worked with a local 10th grader on material covered in UW–Madison's CS 367-Introduction to Data Structures course. We met twice a week to discuss new topics, work through problems, and review graded assignments. I also developed tests and assignments that were consistent with the workload expected in UW–Madison's course and the former AP CS AB exam.

Homeschool Computer Science Elective, Instructor 2012-2013
Madison, Wisconsin

I worked with a local 9th grader who had recently completed the AP CS A exam (earning a 5) and was interested in learning additional computer science topics. I created and taught short modules on topics he showed interest in, including GUIs, graph algorithms, compilers, computational photography, and AI.

Introduction to Human-Computer Interaction, Instructor Spring 2012
University of Wisconsin–Madison

As the sole instructor for Introduction to Human-Computer Interaction, I planned and led two classes and one design session per week. I assigned readings and at-home exercises to familiarize students with the material, designed exercises for class sessions that allowed students to apply the material, and oversaw 30 design and implementation projects throughout the course.

Introduction to Python, Volunteer
Cherokee Heights Middle School, Madison, Wisconsin

Spring 2010

I mentored two middle schoolers once a week in Python as part of an informal elective. With one student having prior programming experience, I designed individual online lessons for each student with periodic checkpoints, allowing the students to work at their own pace and level, leaving me free to help each student as needed.

Introduction to Human-Computer Interaction, Teaching Assistant
University of Wisconsin-Madison

Spring 2010

My primary responsibility was to assist students with their course projects, such as helping students scope out their project ideas and complete their data analysis. I also graded assignments, quizzes, projects, and presentations.

Introduction to Programming, Teaching Assistant
University of Wisconsin-Madison

Spring 2010

I led three weekly lab sections of 25 students, answering questions and clarifying assignment requirements as needed. Additionally, I graded assignments and exams.

Introduction to Databases, Teaching Assistant
Rose-Hulman Institute of Technology

Winter 2008

I was responsible for the development and grading of two in-class labs. Additionally, I held weekly office hours and helped grade assignments and projects.

RESEARCH INTERESTS

My research focuses on **human-robot interaction (HRI)**, particularly how to create effective behavioral mechanisms for fluid **human-robot collaboration**. Additionally, I am interested in **computer-supported cooperative work (CSCW)**, the **internet of things (IoT)** and **data management and integration**. I have also done work on **computer science education**, and am interested in studying how computer science education is approached in a **homeschool environment**.

RESEARCH EXPERIENCE

Research Assistantship, Prof. Bilge Mutlu
University of Wisconsin-Madison

2010-2015

My research focuses on two different areas: human-robot collaboration and human behavioral modeling. I also supervised undergraduate students in their implementation of three studies for a project examining how patients with a traumatic brain injury (TBI) respond to various social stimuli from a robot.

Independent Study, Prof. Jignesh Patel
University of Wisconsin–Madison

Spring 2010

I explored previous frameworks, such as Bowtie, for indexing and querying DNA sequences to better benchmark a new approach developed in collaboration with another graduate student.

Senior Thesis, Prof. Sriram Mohan
Rose-Hulman Institute of Technology

2008-2009

As part of my senior thesis, I studied various graph database indexing and querying techniques to develop benchmarks to highlight strengths and weaknesses of each approach.

CONFERENCE PAPERS

Porfirio, D., **Sauppé, A.**, Albarghouthi, A., Mutlu, B. Transforming Robot Programs Based on Social Context. *Proceedings of the 2020 SIGCHI Conference on Human Factors in Computing Systems* (CHI 2020). April 2020. Honolulu, Hawaii, USA.

Porfirio, D., Fisher, E.¹, **Sauppé, A.**, Albarghouthi, A., Mutlu, B. Bodystorming Human-Robot Interactions. *Proceedings of the 2019 ACM Symposium on User Interface Software and Technology* (UIST 2019). October 2019. New Orleans, Louisiana, USA.

Skare, S.², **Sauppé, A.** Using a Recurrent Neural Network and Articulatory Synthesis to Accurately Model Speech Output. *Proceedings of the 2019 National Council on Undergraduate Research* (NCUR 2019). April 2019. Kennesaw, Georgia, USA.

Skare, S.², **Sauppé, A.** Using a Recurrent Neural Network and Articulatory Synthesis to Accurately Model Speech Output. *Proceedings of the 2019 Midwest Instruction in Computing Symposium* (MiCS 2019). April 2019. Fargo, North Dakota, USA.

Porfirio, D., **Sauppé, A.**, Albarghouthi, A., Mutlu, B. Authoring and Verifying Human-Robot Interactions. *Proceedings of the 2018 ACM Symposium on User Interface Software and Technology* (UIST 2018). October 2018. Berlin, Germany. **Winner of Best Paper Award**

Sauppé, A., Mutlu, B. The Social Impact of a Robot Co-Worker in Industrial Settings. *Proceedings of the 2015 SIGCHI Conference on Human Factors in Computing Systems* (CHI 2015). April 2015. Seoul, South Korea. **Winner of Best Paper Award**

Sauppé, A., Szafir, D., Huang, C.-M., Mutlu, B. From 9 to 90: Engaging Learners of All Ages. *Proceedings of the 2015 ACM Technical Symposium on Computer Science Education* (SIGCSE 2015). March 2015. Kansas City, Missouri, USA.

Sauppé, A., Mutlu, B. Effective Task Training Strategies for Instructional Robots. *Proceedings of the 2014 Robotics: Science and Systems Conference* (RSS 2014). July 2014. Berkeley, California, USA.

¹Evan Fisher is a UWL student who graduated in the fall of 2018

²Sal Skare is a UWL student who graduated in the fall of 2019

Sauppé, A., Mutlu, B. Design Patterns for Exploring and Prototyping Human-Robot Interactions. *Proceedings of the 2014 SIGCHI Conference on Human Factors in Computing Systems* (CHI 2014). April 2014. Toronto, Canada.

Sauppé, A., Mutlu, B. Robot Deictics: How Gesture and Context Shape Referential Communication. *Proceedings of the 2014 ACM/IEEE International Conference on Human-Robot Interaction* (HRI 2014). March 2014. Bielefeld, Germany.

Sauppé, A., Mutlu, B. How Social Cues Regulate Task Coordination and Communication. *Proceedings of the 2014 Conference on Computer Supported Cooperative Work* (CSCW 2014). February 2014. Baltimore, Maryland, USA.

Terrell, A., Mutlu, B. A Regression-based Approach to Modeling Addressee Backchannels. *Proceedings of the 2012 ACM SIGDIAL Conference on Discourse and Dialogue* (SIGDIAL 2012). July 2012. Seoul, South Korea.

Li, Y., **Terrell, A.**, Patel, J. WHAM: A High-throughput Sequence Alignment Method. *Proceedings of the 2011 ACM SIGMOD International Conference on Management of Data* (SIGMOD 2011). June 2011. Athens, Greece.

JOURNAL PAPERS

Sauppé, A., Mutlu B. Effective Task Training Strategies for Instructional Robots. *Autonomous Robots* (AURO 2015).

Li, Y., Patel, J., **Terrell, A.** WHAM: A High-throughput Sequence Alignment Method. *Transactions on Database Systems* (TODS 2012), Volume 37, Issue 4. December 2012.

BOOK CHAPTERS

Mutlu, B., Andrist, S., **Sauppé, A.** Enabling Human-Robot Dialogue. In J. Markowitz (Ed.) *Robots that Talk and Listen*. De Gruyter.

POSTERS

Porfirio, D., Cakmak, M., **Sauppé, A.**, Albarghouthi, A., Mutlu, B. Computational Tools for Human-Robot Interaction Design. *National Robotics Initiative Principal Investigator 2020 Meeting*. February 2020. Arlington, Virginia, USA.

Sauppé, A., Foley, S., Gendreau, T., Hertel, J., Zheng, M. Building Computer Science K-12 PLCs in Rural Communities. *Proceedings of the 2019 ACM Technical Symposium on Computer Science Education* (SIGCSE 2019). February 2019. Minneapolis, Minnesota, USA.

WORKSHOP & COLLOQUIA PAPERS

Porfirio, D., **Sauppé, A.**, Albarghouthi, A., Mutlu, B. Computational Tools for Human-Robot Interaction Design. *Proceedings of the 2019 ACM/IEEE International Conference on Human-Robot Interaction Doctoral Symposium* (HRI Pioneers 2019). March 2019. Daegu, South Korea.

Sauppé, A., Huang, C.-M. Teaching Human-Robot Interaction Using the CSTA Recommendations. *Proceedings of the Workshop on HRI Education: How to Design and Teach Courses in Human-Robot Interaction held at the 2015 ACM/IEEE Human-Robot Interaction Conference (HRI 2015)*. March 2015. Portland, Oregon, USA.

Sauppé, A., Mutlu, B. Technical and Design Challenges in Multimodal, Situated Human-Robot Dialogue. *Proceedings of the Workshop on Designing Speech and Language Interactions held at the 2014 SIGCHI Conference on Human Factors in Computing Systems (CHI 2014)*. May 2014. Toronto, Canada.

Sauppé, A. Designing Effective Strategies For Human-Robot Collaboration. *Proceedings of the 2014 Conference on Computer Supported Cooperative Work Companion (CSCW 2014)*. February 2014. Baltimore, Maryland, USA.

Mutlu, B., **Terrell, A.**, Huang, C.-M. Coordination Mechanisms in Human-Robot Collaboration. *Proceedings of the Workshop on Collaborative Manipulation held at the 2013 ACM/IEEE Human-Robot interaction Conference (HRI 2013)*. March 2013. Tokyo, Japan.

GRANTS

NRI: INT: COLLAB: Program Verification and Synthesis for Collaborative Robots 2019-2023

National Science Foundation IIS-1925043

Investigators: Bilge Mutlu (PI), Aws Albarghouthi, Allison Sauppé, Maya Cakmak

Amount: \$114,672

This project will explore and define the possibilities for programming modalities for novice programmers and end-users of social humanlike robots, building off of work in our EAGER grant. (subaward through University of Wisconsin–Madison Computer Sciences Department)

Building Computer Science K-12 PLCs in Rural Communities 2017-2018

Google CS4HS

Investigators: Thomas Gendreau (PI), Samantha Foley, Joshua Hertel, Allison Sauppé, Mao Zheng

Amount: \$29,750

This project will work to develop computational thinking and computer science skills and concepts in rural Wisconsin high school educators.

Building Computer Science K-12 PLCs in Rural Communities 2016-2017

Google CS4HS

Investigators: Thomas Gendreau (PI), Samantha Foley, Joshua Hertel, Allison Sauppé, Mao Zheng

Amount: \$29,510

This project will work to develop computational thinking and computer science skills and concepts in rural Wisconsin high school educators.

EAGER: Representations and Methods for Verifiable Human-Robot Interaction 2016-2018

National Science Foundation IIS-1651129

Investigators: Bilge Mutlu (PI), Aws Albarghouthi, Allison Sauppé

Amount: \$37,316

This project devised a novel framework for computationally representing human-robot interactions and exploring the solution space for robot behaviors and actions that satisfy defined correctness properties. (subaward through University of Wisconsin–Madison Computer Sciences Department)

COMMITTEES

Graduate Curriculum Committee (GCC), Voting Member 2019-present

University of Wisconsin–La Crosse

I served as a voting member on UW–La Crosse’s Graduate Curriculum Committee. This position involved reviewing and voting on changes to graduate courses, as well as streamlining the process for deactivating courses.

Institutional Review Board (IRB), Voting Member 2016-2019

University of Wisconsin–La Crosse

I served as a voting member on UW–La Crosse’s IRB. This position involved updating campus IRB policies and submission procedures, and reviewing and assessing experimental procedures submitted by members of the campus.

SERVICE

Reviewer 2012-2017

I served as a reviewer for TOCHI (2020), SIGCSE (2015-2018), TOCE (2017), JHRI (2016-2017), Grace Hopper (2016-2017), ICRA (2016), RO-MAN (2016), IJR (2016), ICMI (2013-2016), HRI (2014-2018), Humanoids (2015), ICSR (2015), CHI (2013-2014, 2019), and the FinE-R workshop (2015).

Human-Robot Collaboration for Industrial Manufacturing, Organizer July 2014

Robotics: Science and Systems (RSS) Workshop

I co-organized a workshop on the challenges and opportunities presented when introducing robots alongside humans in manufacturing environments. This workshop was organized in collaboration with Matthew Gombolay (MIT), Julie Shah (MIT), and Bilge Mutlu (UW–Madison).

Women's Association of Computing Machinery, Officer 2009-2013
University of Wisconsin-Madison

I served as the Secretary/Treasurer (2009-2010, 2011-2013) and the Treasurer/Historian (2010-2011). I also helped start a mentoring program for undergraduate women in the CS department.

Girls in Electrical Engineering and Computer Science 2005-2009
Rose-Hulman Institute of Technology

As parts of Girls in Electrical Engineering and Computer Science (gEECS), I helped lead outreach efforts at local elementary and middle schools. I also served as the president during the 2008-2009 school year.

OUTREACH

Outreach Advisor (CODERS) 2015-present
University of Wisconsin-La Crosse

I organized outreach opportunities and advised students in how to best present content to audiences. In particular, I helped students advise a FIRST Robotics team at Holmen High School and led students in organizing a series of 3 courses at the La Crosse Public Library on web development.

Outreach Coordinator 2011-2014
Human-Computer Interaction Laboratory

I organized outreach presentations and demos for a variety of events, including Camp Badger, National Robotics Week, and the CS Department's 50th anniversary showcase.

Grandparents University (GPU), Instructor Summers 2011-2013
University of Wisconsin-Madison

I developed and implemented curriculum for a two day social robotics summer camp as part of UW-Madison's Grandparents University, where grandparents and their grandchildren learn about human-robot interaction and complete programming activities with Lego Mindstorms.

First Lego League (FLL), Coach 2005-2006
Rose-Hulman Institute of Technology

I coached a team of five middle school girls for the First Lego League robotics competition. Our team of first-timers placed in the regional competition, allowing us to advance to the statewide competition.

PEDAGOGICAL DEVELOPMENT

Delta Community, Member 2009-2015
University of Wisconsin-Madison

I developed as an educator through participation in roundtable discussions on current issues and trends in higher education, particularly within STEM fields. I also participated in online courses through the Center for Integration of Research, Teaching, and Learning (CIRTL).

Teaching and Learning Reading Group, Member 2012-2013
University of Wisconsin-Madison

As part of the reading group, I met weekly with other graduate students to discuss recent research and trends in computer science education.

HONORS

UIST Best Paper Award	2018
CHI Best Paper Award	2015
ACM-W SIGCSE Travel Scholarship	2015
RSS Army Research Lab Travel Scholarship	2014
CSCW Doctoral Colloquium	2014
HRI Pioneers Doctoral Colloquium	2013
SIGDIAL Travel Scholarship	2012
CRA-W SIGCSE Travel Scholarship	2011
CSSE Department Frank Young Service Award (Rose-Hulman)	2009
Grace Hopper Conference Travel Scholarship	2008